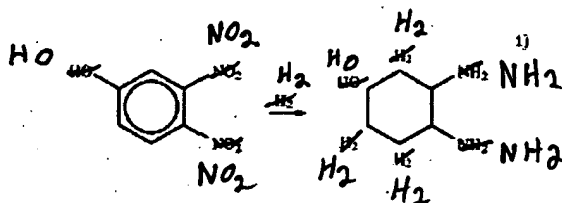
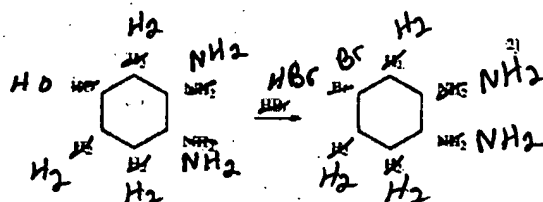


or self-detecting nucleic acids can be created by covalently attaching to an allylamine substituent making up a modified nucleotide in accordance with this invention a molecule which will chelate specific ions, e.g. heavy metals, rare earths, etc. In general, the chelated ion can be detected either (a) by radioactive emission or (b) by using the ion to catalyze a chromogenic or fluorogenic reaction.

By way of example, a solution of 3,4-dinitro phenol is reduced to 3,4-diamino cyclohexane



This material is then brominated



to form 3,4-diamino bromo cyclohexane (dABCH). This compound is reacted with halide (Cl, Br, I) substituted carboxymethyl compound to produce a tetra carboxymethyl derivative or dABCH (TCM-dABCH):

